

2009 International Plumbing Code (IPC)
City of Norman and State of Oklahoma-Uniform Building Code Amendments

** Note to users of this code: Please review the City of Norman (CoN) amendments and State of Oklahoma (OK) amendments listed below (8 pages total) before viewing the code and consider the amendments as they pertain to your area of interest. Feel free to contact a member of the City's Development Services Division if you have any questions about the code or any of the amendments.**

Sec. 5-208. Adoption of the 2009 International Plumbing Code as adopted by the Oklahoma Uniform Building Code Commission pursuant to 59 O.S. 1000.23.

(a) Adoption includes ONLY the following Appendices:

- (1) Appendix B regarding Rates of Rainfall for Various Cities;
- (2) Appendix C regarding Gray Water Recycling Systems;
- (3) Appendix D regarding Degree Day and Design Temperatures;
- (4) Appendix E regarding Sizing of Water Piping System;
- (5) Appendix F regarding Structural Safety; and
- (6) Appendix G regarding Vacuum Drainage System.

(b) Amend delete or substitute within the following sections as indicated:

- (1) Delete the Preamble referenced in Title 748:20-15-6 from the International Plumbing Code as amended and adopted by the Oklahoma Uniform Building Code Commission pursuant to 59 O.S. 1000.23.;
- (2) Chapter 2, DEFINITIONS, Section 202 GENERAL DEFINITIONS – add “SERVICE SINK. In occupancy groups B, M, S and U a service sink is defined as any approved sink, basin or bowl that discharges to the building sewer and can be used in conjunction with a potable water faucet for the purpose of building cleaning and/or maintenance.”;

OK:748:20-15-7 IPC 2009® Chapter 2 Definitions

Chapter 2 of the IPC® 2009 is adopted with the following modifications: The definition of a Grease Interceptor has been modified to delete the original definition and add definitions for hydromechanical and gravity grease interceptors. This section has been modified to read:

(1) Hydromechanical. Plumbing appurtenances that are installed in the sanitary drainage system to intercept free-floating fats, oils, and grease from waste water discharge. Continuous separation is accomplished by air entrainment, buoyancy and interior baffling.

(2) Gravity. Plumbing appurtenances of not less than 500 gallons (1893 L) capacity that are installed in the sanitary drainage system to intercept free-floating fats, oils and grease from waste water discharge. Separation is accomplished by gravity during a retention time of not less than 30 minutes.

- (3) Chapter 3, GENERAL REGULATIONS, Section 312, Section 312.6 Gravity sewer test – Replace “public sewer” with “location of the building clean out.”;

OK:748:20-15-8 IPC® 2009 Chapter 3 General Regulations

Chapter 3 of the IPC® 2009 is adopted with the following modifications:

- (1) Section 305.6.1 Sewer depth. This section has been modified to include a depth for the septic tank connection unless otherwise approved by the authority having jurisdiction. This section has been modified to read: Building sewers that connect to private sewage disposal systems shall be a minimum of 12 inches (305 mm) or as approved by the authority having jurisdiction below finished grade at the point of septic tank connection. Building sewers shall be a minimum of 12 inches (305 mm) below grade.
- (2) Section 312.1 Required tests. This section has been modified to allow the authority having jurisdiction to determine if the tests will be done using water or air and if a final test of the entire system will be required. This section has been modified to read: The permit holder shall make the applicable tests prescribed in Sections 312.2 through 312.10 to determine compliance with the provisions of this code. The permit holder shall give reasonable advance notice to the code official when the plumbing work is ready for tests. The equipment, material, power and labor necessary for the inspection and test shall be furnished by the permit holder and the permit holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests. All plumbing system piping shall be tested with either water or, for piping systems other than plastic, by air as approved. After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be submitted to final tests when required by the authority having jurisdiction. The code official shall require the removal of any cleanouts if necessary to ascertain whether the pressure has reached all parts of the system.
- (3) Section 312.2 Drainage and vent water test. This section has been modified to allow the authority having jurisdiction to specify the test may be done with less than a 10 foot (3048 mm) head of water. This section has been modified to read: A water test shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest openings of the section under test, and each section shall be filled with water, but no section shall be tested with less than a 10-foot (3048 mm) head of water or as required. In testing successive sections, at least the upper 10 feet (3048 mm) of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost 10 feet (3048 mm) of the system, shall have been submitted to a test of less than a 10-foot (3048 mm) head of water or as required. This pressure shall be held for at least 15 minutes. The system shall then be tight at all points.

- (4) Section 312.3 Drainage air test. This section has been modified to remove the words "and vent" to the section title.
- (5) Section 312.4 Drainage and vent final test. This section has been modified to allow the authority having jurisdiction to determine if the test is required. It has been modified to read: The final test of the completed drainage and vent systems where required shall be visual and in sufficient detail to determine compliance with the provisions of this code. Where a smoke test is utilized, it shall be made by filling all traps with water and then introducing into the entire system a pungent, thick smoke produced by one or more smoke machines. When the smoke appears to stack openings on the roof, the stack openings shall be closed a pressure equivalent to a 1-inch water column (248.8 Pa) shall be held for a test period of not less than 15 minutes.
- (6) Section 312.5 Water supply system test. This section has been modified to allow the authority having jurisdiction to determine another approved system for testing. This section has been modified to read: Upon completion of a section of or the entire water supply system, or portion completed, shall be tested and proved tight under a water pressure not less than the working pressure of the system; or, for piping systems other than plastic or as approved, by an air test of not less than 50 psi (344 kPa). This pressure shall be held for at least 15 minutes. The water utilized for tests shall be obtained from a potable source of supply. The required tests shall be performed in accordance with this section and Section 107.
- (7) 312.6 Gravity sewer test. This section has been modified to allow the authority having jurisdiction to determine if this test is required. This section has been modified to read: Where required, gravity sewer tests shall consist of plugging the end of the building sewer at the point of connection with the public sewer, filling the building sewer with water, testing with not less than a 10-foot (3048 mm) head of water and maintaining such pressure for 15 minutes.
- (8) 312.9 Shower liner test. This section has been modified to allow the authority having jurisdiction to determine if this test is required. This section has been modified to read: Where shower floors and receptors are made water-tight by the application of materials required by Section 417.5.2, the completed liner installation, where required by the authority having jurisdiction, shall be tested. The pipe from the shower drain shall be plugged water tight for the test. The floor and receptor area shall be filled with potable water to a depth of not less than 2 inches (51 mm) measured at the threshold. Where a threshold of at least 2 inches (51 mm) high does not exist, a temporary threshold shall be constructed to retain the test water in the lined floor or receptor area to a level not less than 2 inches (51 mm) deep measured at the threshold. The water shall be retained for a test period of not less than 15 minutes, and there shall not be evidence of leakage.
- (9) Section 314.1 General. This section has been modified to delete the original section and add a requirement to reference the International Mechanical Code for work with condensate disposal. This section has been modified to read: Condensate disposal shall be in accordance with the International Mechanical Code.
- (10) Section 314.2 Evaporators and cooling coils. This section has been stricken from the code.
- (11) Section 314.2.1 Condensate disposal. This section has been stricken from the code.
- (12) Section 314.2.2 Drain pipe materials and sizes. This section has been stricken from the code.
- (13) Table 314.2.2 Condensate drain sizing. This table has been stricken from the code.

- (14) Section 314.2.3 Auxiliary and secondary drain system. This section has been stricken from the code.
 - (15) Section 314.2.3.1 Water-level monitoring devices. This section has been stricken from the code.
 - (16) Section 314.2.3.2 Appliance, equipment and insulation in pans. This section has been stricken from the code.
 - (17) Section 314.2.4 Traps. This section has been stricken from the code.
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- (4) Chapter 4, FIXTURES, FAUCETS AND FIXTURE FITTINGS, Section 403 MINIMUM PLUMBING FACILITIES, Section 403.1 Minimum number of fixtures – add “Exception: In occupancies other than assembly, business owners may elect to provide drinking water by a means other than a drinking fountain when the code calculated occupant load is 50 persons or less.”;

OK:748:20-15-9 IPC® 2009 Chapter 4 Fixtures, Faucets and Fixture Fittings

Chapter 4 of the IPC® 2009 is adopted with the following modifications:

- (1) Table 403.1 Minimum number of required plumbing fixtures. This table has been modified to include a footnote "g" in the Other column of the table at the end of the service sink requirement to number 2 (classification of business), and number 6 (classification of mercantile). The footnote "g" shall read: For business and mercantile occupancies with an occupant load of 15 or fewer, service sinks shall not be required.
- (2) Section 403.2 Separate facilities. This section was modified to change the maximum occupant load in exception three from 50 to 100. This section shall now read: Where plumbing fixtures are required, separate facilities shall be provided for each sex. Exception:
 - (A) Separate facilities shall not be required for dwelling units and sleeping units.
 - (B) Separate facilities shall not be required in structures or tenant spaces with a total occupancy load, including both employees and customers, of 15 or less.
 - (C) Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or less.
- (3) Section 403.3.1.1 Toilet room ingress and egress. This section was added to the code to restrict toilet rooms from opening directly into a room used for the preparation of food for service to the public. This section shall read: Toilet rooms shall not open directly into a room used for the preparation of food for service to the public.
- (4) Section 405.8 Slip joint connections. This section has been modified to allow installation of slip joints anywhere between the fixture and trap outlet. It has been modified to read: Slip joints shall be made with an approved elastomeric gasket and shall be installed from fixture outlet to trap outlet seal. Fixtures with concealed slip-joint connections shall be provided with an access panel or utility space at least 12 inches (305 mm) in its smallest dimension or other approved arrangement so as to provide access to the slip joint connections for inspection and repair.
- (5) Section 417.5.2.6 Liquid type, trowel applied, load bearing, bonded water proof materials. This section has been added to allow for new technology in the market. This section shall read: Liquid type, trowel applied, load bearing, bonded waterproof materials shall meet the requirements of ANSI A118.10 and shall be applied in accordance with the manufacturer's installation instructions.

- (5) Chapter 4, FIXTURES, FAUCETS AND FIXTURE FITTINGS, Section 403 MINIMUM PLUMBING FACILITIES, Section 403.2 Separate facilities –add new exception “4. In occupancies other than assembly, business owners may elect

to provide a single user accessible toilet facility when the code calculated occupant load is 50 persons or less.”;

- (6) Chapter 4, FIXTURES, FAUCETS AND FIXTURE FITTINGS, Section 419 URINALS, Section 419.1 After CSA B45.5. Add “When a waterless urinal is installed, the installer is obligated to install a properly sized water line to each urinal location which could later be used for a water supplied urinal.”;
- (7) Chapter 4, FIXTURES, FAUCETS AND FIXTURE FITTINGS, Section 424 FAUCETS AND OTHER FIXTURE FITTINGS, Section 424.5 after “tub/shower valve in accordance with Section 424.3” add “Exception: One and Two-Family Dwellings”.

OK:748:20-15-10 IPC® 2009 Chapter 5 Water Heaters

Chapter 5 of the IPC® 2009 is adopted with the following modifications:

(1) Section 504.4.1 Installation. This section has been modified to provide for pressure relief on storage tanks that have an ability to heat water. This section has been modified to read: Such valves shall be installed in the shell of the water heater tank. Temperature relief valves shall be so located in the tank as to be actuated by the water in the top 6 inches (152 mm) of the tank served. For installations with separate storage tanks, the approved, self-closing (levered) pressure relief valve and the temperature relief valve or combination thereof conforming to ANSI Z21.22 valves shall be installed on both the storage water heater and storage tank. There shall not be a check valve or shutoff valve between a relief valve and the heater or tank served.

(2) Section 504.6 Requirements for discharge piping. This section has been modified to include an additional requirement where discharging to outdoor areas subject to freezing. This section has been modified to read: The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

- (A) Not be directly connected to the drainage system.
- (B) Discharge through an air gap located in the same room as the water heater.
- (C) Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
- (D) Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
- (E) Discharge to the floor, to the pan serving the water heater or storage tank, to a waste receptor or to the outdoors.
- (F) Discharge in a manner that does not cause personal injury or structural damage.
- (G) Discharge to a termination point that is readily observable by the building occupants.
- (H) Not be trapped.
- (I) Be installed so as to flow by gravity.
- (J) Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
- (K) Not have a threaded connection at the end of such piping.
- (L) Not have valves or tee fittings.
- (M) Be constructed of those materials listed in Section 605.4 or materials tested, rated and approved for such use in accordance with ASME A112.4.1
- (N) Where discharging to the outdoors in areas subject to freezing, discharge piping shall be first piped to an indirect waste receptor through an air gap located in a conditioned area.

OK:748:20-15-11 IPC® 2009 Chapter 6 Water Supply and Distribution

Chapter 6 of the IPC® 2009 is adopted with the following modifications:

(1) Section 605.3 Water service pipe. This section has been modified to require piping materials not third-party certified for water distribution to terminate a minimum of 30 inches outside the structure. This section has been modified to read: Water service pipe shall conform to NSF 61 and shall conform to one of the standards listed Table 605.3. All water service pipe or tubing, installed underground and outside of the structure, shall have a minimum working pressure rating of 160 pounds per square inch (1100 kPa) at 73.4 degrees Fahrenheit (23 degrees Celsius). Where the water pressure exceeds 160 pounds per square inch, (1100 kPa), piping materials shall have a minimum rated working pressure equal to the highest available pressure. Water service piping materials not third-party certified for water distribution shall terminate a minimum of 30 inches (762 mm) outside the structure at or before the full open valve located at the entrance to the structure. All ductile iron water service piping shall be cement mortar lined in accordance with AWWA C104.

(2) Section 606.1 Location of full-open valves. This section has been modified to delete a requirement to install full open-valves on the discharge side of every water meter. This section has been modified to read: Full open-valves shall be installed in the following locations:

(A) On the building water service pipe from the public water supply near the curb.

(B) On the water distribution supply pipe at the entrance into the structure.

(C) On the base of every water riser pipe in occupancies other than multiple-family residential occupancies that are two stories or less in height and in one-and two-family residential occupancies.

(D) On the top of every water down-feed pipe in occupancies other than one- and two-family residential occupancies.

(E) On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.

(F) On the water supply pipe to a gravity or pressurized water tank.

(G) On the water supply pipe to every water heater.

(3) Section 607.1.1 Temperature limiting means. This section was added to restrict a thermostat control for a water heater to serve as the temperature limiting means for the purpose of complying with the requirements of the code for maximum allowable hot or tempered water delivery temperatures at fixtures. This section shall read: A thermostat control for a water heater shall not serve as the temperature-limiting means for the purposes of complying with the requirements of this code for maximum allowable hot or tempered water delivery temperatures at fixtures.

(4) Section 608.16.5 Connections to lawn irrigation systems. This section has been modified to add a spill resistant backflow preventer as an option for protection. This section has been modified to read: The potable water supply to lawn irrigation systems shall be protected against backflow by an atmospheric-type vacuum breaker, a pressure-type vacuum breaker, a spill resistant backflow preventer or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

OK:748:20-15-12 IPC® 2009 Chapter 7 Sanitary Drainage

Chapter 7 of the IPC® 2009 is adopted with the following modifications:

(1) Section 707.1 Prohibited joints. This section has been modified to include an exception for saddle-type fittings to be used for connecting a building sewer to a public sewer. This section has been modified to read: The following types of joints and connections shall be prohibited:

(A) Cement or concrete joints.

(B) Mastic or hot-pour bituminous joints.

(C) Joints made with fittings not approved for the specific installation.

(D) Joints between different diameter pipes and made with elastomeric rolling O-rings.

(E) Solvent-cement joints between different types of plastic pipe.

(F) Saddle type fittings. Exception: Saddle-type fittings may be used to connect the building sewer to a public sewer.

(2) Section 715.1 Sewage backflow. This section has been modified by striking the requirements of plumbing fixtures having flood level rims above the elevation of the next upstream manhole cover in the public sewer system. It has been modified to read: Where plumbing fixtures are installed on a floor with a finished floor elevation below the elevation of the manhole cover of the next upstream manhole in the public sewer, the fixtures shall be protected by a backwater valve installed in the building drain or horizontal branch servicing such fixtures.

OK:748:20-15-13 IPC® 2009 Chapter 8 Indirect/Special Waste

Chapter 8 of the IPC® 2009 is adopted with the following modification: Section 802.1.8 Food utensils, dishes, pots and pans sinks. This section was modified to remove the option for a direct connection to the drainage system. This section has been modified to read: Sinks used for the washing, rinsing or sanitizing of utensils, dishes, pots, pans or serviceware used in the preparation, serving or eating of food shall discharge indirectly through an air gap or an air break to the drainage system.

OK:748:20-15-14 IPC® 2009 Chapter 9 Vents

Chapter 9 of the IPC® 2009 is adopted with the following modification: Section 904.1 Roof extension. This section has been modified to specify the number of inches where the open vent pipes that extend through the roof shall be terminated. This section has been modified to read: All open vent pipes that extend through a roof shall be terminated at least 6 inches (152 mm) above the roof, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet (2134 mm) above the roof.

OK:748:20-15-15 IPC® 2009 Chapter 10 Traps, Interceptors, and Separators

Chapter 10 of the IPC® 2009 is adopted with the following modifications:

(1) Section 1002.4 Trap seals. This section has been modified to allow for new technology to be utilized for installation when approved by the authority having jurisdiction. This section has been modified to read: Each fixture trap shall have a liquid seal of not less than 2 inches (51 mm) and not more than 4 inches (102 mm), or deeper for special designs relating to accessible fixtures. Where a trap seal is subject to loss by evaporation, a trap seal primer valve or other approved trap seal device shall be installed. Trap seal primer valves shall connect to the trap at a point above the level of the trap seal. A trap seal primer valve shall conform to ASSE 1018 or ASSE 1044.

(2) Section 1003.3.1 Grease interceptors and automatic grease removal devices required. This section has been modified to allow for installation of grease interceptors on or above the floor when there is a lack of space or other constraints that prevent the installation of a replacement grease interceptor. This section has been modified to read: A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school kitchens, bars, factory cafeterias and clubs. Fixtures and equipment shall include pot sinks, prerinse sinks; soup kettles or similar devices; wok stations; floor drains or sinks into which kettles are drained; automatic hood washing units and dishwashers without prerinse sinks. Grease interceptors and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged. Where lack of space or other constraints prevent the installation or replacement of a grease interceptor, one or more grease interceptors shall be permitted to be installed on or above the floor.

(3) Section 1003.3.4 Hydromechanical grease interceptors and automatic grease removal devices. This section has been modified to reference only hydromechanical grease interceptors provide

standards for hydromechanical grease interceptors and removes the exception to locate grease interceptors over 500 gallons outdoors. This section has been modified to read: Hydromechanical grease interceptors and automatic grease removal devices shall be sized in accordance with ASME A112.14.3 Appendix A, or ASME A112.14.4, CSA B481.3, or PDI G101. Hydromechanical grease interceptors and automatic grease removal devices shall be designed and tested in accordance with ASME 112.14.3 or ASME 112.14.4, CSA B481.1, PDI G101 or PDI G102. Hydromechanical grease interceptors and automatic grease removal devices shall be installed in accordance with the manufacturer's instructions. Where manufacturer's instructions are not provided, hydromechanical grease interceptors and grease removal devices shall be installed in compliance with ASME A112.14.3, ASME A112.14.4, CSA B481.3 or PDI G101. This section shall not apply to gravity grease interceptors.

OK:748:20-15-16 IPC® 2009 Chapter 11 Storm Drainage

Chapter 11 of the IPC® 2009 is adopted with the following modification: Section 1107.3 Sizing of secondary drains. This section has been modified to include the use of scuppers or increase the sizing of secondary drains to accommodate rainfalls of 10.2 inches per hour for a 5-minute duration and includes minimum design loads. This section has been modified to read: Secondary (emergency) roof drain systems or scuppers shall be sized in accordance with Section 1106 based on a rainfall rate of 10.2 inches per hour for a 5-minute duration. In sizing secondary roof drain systems using Tables 1106.2, 1106.3 and 1106.6, the Horizontally Projected Roof Area shall be determined by dividing the Horizontally Projected Roof Area for 1-inch rain fall per hour rate by 10.2 inches per hour. Secondary roof scuppers shall be designed in accordance with ASCE/SEI 7-05 Minimum Design Loads for Buildings and Other Structures, Chapter 8 C8-RAIN LOADS published by the American Society of Civil Engineers and Structural Engineering Institute. Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by Section 1101.7. Scuppers shall not have an opening dimension of less than 4 inches (102 mm). The flow through the primary system shall not be considered when sizing the secondary roof drain system or scuppers.